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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 12

Application Number: 09/334,208
Filing Date: June 15, 1999
Appellant(s): DAVIS, JEFFREY

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Docket No. DAVIS100
For Appellant

EXAMINER'S ANSWER

This is in response to appellant's brief on appeal filed September 4, 2001.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

The appellant's statement in the brief that certain claims do not stand or fall together is not agreed with because no statement has been given as to why the suggested groupings are separately patentable. Further, in the suggested groupings, the second group of claims 3, 4, 6, 8, 10 and 11 are a subset of the first group 1-13, thus creating two separate appeals.

Currently, pending claims 1-13 are segregated in to two groups, claims 9-13 which set forth an apparatus and claims 1-8 which set forth a method of use of the apparatus. The two groups are not separately patentable because the apparatus renders the method claims obvious. Therefore claims 1-13 should stand or fall together based on a decision on claims 9-13.

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

3,851,995	Mills	12-1974
4,450,943	Long, Jr.	5-1984
3,075,467	Gallaway	1-1963

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mills (3,851,995), in view of Long, Jr., (4,450,943). Mills, teaches a method of pumping an oil well, comprising the steps of: connecting a continuously running engine 16 (column 3, line 29-31) to a pump assembly 14 through a clutch (column 7, lines 6-8) and determining a selected event to actuate the clutch (column 2, lines 53-60). Although, Mills teaches most of the limitations of the claim, he does not disclose a pneumatic clutch or a supply of gas. Long, Jr., disclosing a clutch that allows an engine to run constantly while only transmitting rotation intermittently (column 1, lines 5-10), specifically teaches an air clutch 10 equipped with inflatable air bladders 64 for connecting hub 70 to clutch plate 106 in order to transmit rotary motion. Long, Jr. further teaches a method of supplying gas to inflate the bladders (column 2, lines 3-9) in order to engage

the clutch. Long, Jr. teaches the air clutch advantageously reduced drag, increased the life of the clutch (column 1, lines 40-45), reduced the size of the clutch and eased manufacturing (column 2, lines 52-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the air clutch taught by Long, Jr., in the method disclosed by Mills, to have advantageously reduced drag, increased the life of the clutch (column 1, lines 40-45), reduced the size of the clutch and/or eased manufacturing (column 2, lines 52-55).

Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mills, in view of Long, Jr. (both previously mentioned), in further view of Turner et al. (3,247,798). Mills, teaches most of the limitations of the claims, including a method for pumping an oil well depending on a selected event. Mills, however, does not teach the selected event to include a time interval or liquid level. Turner et al., disclosing a method of pumping an oil well, specifically teach a method to control the pumping cycle, based on periodic time intervals and the level within the well (column 6, line 19-23), in order to maintain an inflow of hydrocarbons from a producing formation (column 1, line 31). Turner et al., teach this method advantageously achieved maximum fluid production (column 6, lines 10-13). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the time/level method taught by Turner et al., in the method disclosed by Mills, to have advantageously achieved maximum fluid production.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mills, in view of Long, Jr. (both previously mentioned), in further view of Gallaway (3,075,467). Although Long, Jr. and Mills teach most of the limitations of the claim, including a method of pumping an oil well using a continuously running motor connected via a clutch equipped with pneumatically inflated bladders to a pumping assembly, they do not disclose using a supply of gas from the well to activate the clutch. The use of natural gas as a pressurized medium, is old and well known in the oil field, and has been used as such to drive impact wrenches and a wide assortment of motors and tools. Gallaway, disclosing a means of pumping liquids from a gas well, supports this well known use of natural gas by specifically teaching a method of using the pressurized gas from a well 12 to activate a pump 13 (column 3, line 20). Gallaway, teaches this method was advantageously cost effective (column 1, line 25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the method taught by Gallaway, in the method disclosed by Mills, to have advantageously lowered the cost incurred by the method.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mills, in view of Long, Jr. and Gallaway, in further view of Turner et al. (all previously mentioned). Although, Mills, Long, Jr. and Gallaway, teach most of the limitations of the claim, including a method of pumping an oil well using a pneumatic clutch activated by a selected event, they do not disclose the event to include a time interval or a liquid level. Turner et al., disclosing a method of pumping an oil well, specifically teach a method to control the pumping cycle based on periodic time intervals and the level within the well (column 6, line 19-23). Turner et al., teach this

method advantageously achieved maximum fluid production (column 6, lines 10-13). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the time/level method taught by Turner et al., in the method disclosed by Mills, to have advantageously achieved maximum fluid production.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mills, in view of Long, Jr. and Turner et al., in further view of Gallaway (all previously mentioned). Although Mills, Long, Jr. and Turner et al., teach most of the limitations of the claim, including a method of pumping an oil well including: a continuously running motor connected to a pumping assembly via a clutch equipped with pneumatically inflated bladders, they do not disclose using a supply of gas from the well to activate the clutch. The use of natural gas as a pressurized medium, is old and well known in the oil field, and has been used as such to drive impact wrenches and a wide assortment of motors and tools. Gallaway, disclosing a means of pumping liquids from a gas well, supports this well known use of natural gas by specifically teaching a method of using pressurized gas from a well 12 to activate a pump 13 (column 3, line 20). Gallaway, teaches this method was advantageously cost effective (column 1, line 25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the method taught by Gallaway, in the method disclosed by Mills, to have advantageously lowered the cost incurred by the method.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mills, in view of Long, Jr. (both previously mentioned), in further view of Kuehn, III et al. (4,392,782). Mills,

teaches most of the limitations of the claim, including a method of pumping an oil well by using a selected event to activate a pump in order to maintain an inflow of hydrocarbons from a producing formation while reducing the pump assembly's duty cycle (column 2, lines 36-39). Mills, however, does not disclose the selected event to be determined from directly monitoring the liquid level. Kuehn, III et al., disclosing a liquid level controller for oil wells, specifically teach a method consisting of directly monitoring the liquid level inside a well (column 2, line 66) and actuating a pump to maintain the level between selected elevations (column 9, line 16). Kuehn, III et al., teach this method advantageously increased the efficiency and convenience of maintaining a liquid level in the well (column 9, line 16). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the method taught by Kuehn, III et al., in the method disclosed by Mills, to have advantageously increased the method's efficiency.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mills, in view of Long, Jr. and Kuehn, III et al., in further view of Gallaway (all previously mentioned). Mills and Long, Jr. teach most of the limitations of the claim, including a method of pumping an oil well including: a continuously running motor connected to a pumping assembly via a clutch equipped with pneumatically inflated bladders. Mills and Long, Jr., however, do not disclose using a supply of gas from the well. The use of natural gas as a pressurized medium, is old and well known in the oil field, and has been used as such to drive impact wrenches and a wide assortment of motors and tools. Gallaway, disclosing a means of pumping liquids from a gas

well, supports this well known use of natural gas by specifically teaching a method of using pressurized gas from the well 12 to activate the pump 13 (column 3, line 20). Gallaway, teaches this method was advantageously cost effective (column 1, line 25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the method taught by Gallaway, in the method disclosed by Mills, to have advantageously lowered the cost incurred by the method.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mills, in view of Long, Jr. (both previously mentioned). Mills teaches a pumping assembly for maintaining hydrocarbon production from a well, comprising: an engine 16, a pump assembly 14, a clutch (column 7, lines 6-8), and a control unit 34 for actuating the clutch. Although, Mills teaches most of the limitations of the claim, he does not disclose a pneumatic clutch. Long, Jr., disclosing an air clutch that allows an engine to run constantly while only transmitting rotation intermittently (column 1, lines 5-10), specifically teaches an air clutch 10 equipped with inflatable air bladders 64 connecting hub 70 to clutch plate 106 for transmitting rotary motion. Long, Jr. teaches the air clutch advantageously reduced drag, increased the life of the clutch (column 1, lines 40-45), reduced the size of the clutch and eased manufacturing (column 2, lines 52-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the air clutch taught by Long, Jr., in the pumping assembly disclosed by Mills, to have advantageously reduced drag, increased the life of the clutch, reduced the size of the clutch and/or eased manufacturing.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mills, in view of Long, Jr., in further view of Gallaway (all previously mentioned). Although, Mills and Long, Jr., teach most of the limitations of the claim, including a control unit to activate a pneumatic clutch with air bladders, they do not disclose using gas from the well to fill the air bladders. The use of natural gas as a pressurized medium, is old and well known in the oil field, and has been used as such to drive impact wrenches and a wide assortment of motors and tools. Gallaway, disclosing a means of pumping liquids from a gas well, supports this well known use of natural gas by specifically teaching the use of pressurized gas from a well 12 to activate a pump 13 (column 3, line 20). Gallaway, teaches using gas from the well was advantageously cost effective (column 1, line 25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used gas from the well as taught by Gallaway, in the pumping assembly disclosed by Mills, to have advantageously lowered the cost of operation.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mills, in view of Long, Jr. and Gallaway (all previously mentioned), in further view of Dye (2,634,682). Although, Mills, teaches the activation of the pumping cycle depended on a selected event, he does not disclose the use of a timer. Dye, disclosing an oil well pumping assembly, specifically teaches a control unit comprised of a timer 4 for activating the pumping cycle. Dye, teaches that the timer advantageously allowed unattended operation of the pump (column 1, lines 23-28). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the timer taught by Dye, in the pump assembly disclosed by Mills, to have advantageously allowed unattended operation of the pump.

Claim 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mills, in view of Long, Jr., in further view of Kuehn (all previously mentioned). Although, Mills teaches most of the limitations of the claims, including intermittent operation of a pump assembly dependent on well conditions, he does not disclose directly monitoring the liquid level. Kuehn, III et al., disclosing a liquid level controller for oil wells, specifically teach the use of thermistors 68 and 70 to monitor the level of liquid inside the well (column 2, line 66). Kuehn III, et al., further teach the liquid level controller 10 receives signals from the sensors 68 and 70 and cycles the pump on and off to maintain the level below a maximum height. Kuehn, III et al., teach the thermistors advantageously increased the efficiency and convenience of maintaining a liquid level (column 9, line 16). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the thermistors taught by Kuehn, III et al., in the pump assembly disclosed by Mills, to have advantageously increased the units efficiency.

(11) Response to Argument

In response to Appellant's argument, that the use of an air bladder does not extend the life of the clutch, the Examiner agrees, however, the air bladder alone does not function as a clutch. Long, Jr. states:

> a "positive disconnection will typically improve the life of *the clutch"* (column 1, lines 40-41).

Long, Jr. further states:

> "it is an object of the instant invention to provide a *selective power transmission device* which exhibits negligible input to output coupling when in a deactivated state." (Column 2, lines 37-40).

Mills attempts to improve the pumping of an oil well by activating and deactivating a common clutch connected to a continuously running engine. Long, Jr. teaches an improvement in power systems where power is transferred by activating and deactivating a clutch connected to a continuous running. Long, Jr. states:

> "The invention relates generally to clutch mechanisms for the selective transmission of rotary energy and more particularly to clutch mechanisms which eliminate or substantially reduce partial coupling, i.e., drag, between the input and output members when the clutch is disengaged." (column 1, lines 5-10)

The combination of prior art used in the rejection, simply substitutes the well known common clutch disclosed by Mills, with another ordinary well known clutch disclosed by Long, Jr. The Office Action reads:

> "Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the *air clutch* taught by Long, Jr., in the pumping assembly disclosed by Mills, to have advantageously increased the life of the clutch."

Long, Jr. discloses (as noted in Appellant's response to the Final Office action, page 2):

> "a positive disconnection will typically improve the life of the clutch inasmuch as reduced scrubbing and sliding of the clutch elements against one another during idle..." (column 1, lines 41-45).

Long, Jr. continues,

> "It is a further object of the instant invention to provide an air operated clutch which exhibits low drag in a deactivated state." (Column 2, lines 41-43.)

Long, Jr. specifically teaches that the elimination of drag (or the reduction of scrubbing and sliding of the clutch elements) advantageously increased the life of the clutch. Therefore, the argument is not persuasive, and the rejection is proper.

In response to Appellant's argument that, Mills does not disclose a problem with clutch life, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine,* 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones,* 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

It was old and well known in the art of power systems, that the life of any clutch was limited and any improvement in the life of a clutch was advantageous. Long, Jr. supports this well known fact by stating:

> "Clutch mechanisms provide a selective transmission of rotary energy over a broad range of power transfer capabilities. In addition to the basic parameter of power transfer capabilities, such considerations as overall size, cost, *service life* and serviceability dictate the ultimate design of any particular clutch mechanism." (column 1, lines 11-17)

Long, Jr. teaches that "service life" is an "ultimate" factor in the "design of any particular clutch". In view of the fact, that both Long, Jr. and Mills were working with identical power systems (a clutch connected to a continuously running engine), ample motivation exists for the combination based on increased clutch life.

In addition to longer clutch life, Long, Jr. states:

> "It is a still further object of the instant invention to provide a low drag, air operated clutch mechanism which is both compact and of straightforward, easy to manufacture design." (Column 2, lines 52-55.)

Although Mills teaches a pumping unit with a clutch, he does not disclose any of the clutch's specifications. Long, Jr. specifically teaches an air clutch that advantageously facilitated manufacturing and/or reduced drag, thereby increasing the life of the clutch. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the clutch taught by Long, Jr., in the pumping unit disclosed by Mills, to have advantageously facilitated manufacturing and/or increased the life of the clutch. Therefore, this argument is not persuasive, and the rejection is proper.

In response to Appellant's argument, that "a person of ordinary skill in the pumping apparatus art would not select a pneumatic clutch based on the teachings of either Mills or Long, Jr. et al.", amounts to an attempt to narrow the scope of the skill required to deem the combination of prior art unobvious. However, in this instance, the level of skill required in the field of "pumping apparatus art" must include the ordinary skill level in the art of pumping apparatuses connected to a prime mover via a selective power transmission device. When the skill level is raised to the *minimum level required to enable the invention*, one of ordinary skill in the art would be compelled to look at both Mills and Long, Jr. et al., when considering improvements in an engine driven pumping unit connected by a coupling. Therefore, the argument is not persuasive, and the rejection is proper.

In response to Appellant's argument that "no viable motive from Gallaway to provide natural gas from a well site as a pressurizing medium" has been provided, the use of natural gas as a pressurized medium, is old and well known in the oil field, and has been used as such to drive impact wrenches and a wide assortment of motors and tools. The use of natural gas as pressurized medium would have been obvious without prior art and is supported by Gallaway. Gallaway states:

> "a gas flow line 55 extending through the casing head 20 communicates...with the intake tube 56 of the air motor 30." (column 3, line 20).

Gallaway specifically teaches using pressurized gas from the well as a pressurized medium to drive a motor. Gallaway, teaches using gas from the well was advantageously cost effective (column 1, line 25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used gas from the well as taught by Gallaway, in the pumping assembly disclosed by Mills, to have advantageously lowered the cost of operation. Therefore, the argument is not persuasive, and the rejection is proper.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

CGF (conf.)

tps

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